

	L #	Hits	Search Text	DBs	Time Stamp
1	L1	14	deoxynucleoside near3 kinase\$1	USPAT; US-PGPUB	2003/03/24 14:25

PGPUB-DOCUMENT-NUMBER: 20020192788

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020192788 A1

TITLE: DEOXYNUCLEOSIDE KINASE FROM INSECT CELLS FOR THE SYNTHESIS OF NUCLEOSIDE MONOPHOSPHATES

PUBLICATION-DATE: December 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
IHLENFELDT, HANS-GEORG	IFFELDORF		DE	
MUNCH-PETERSEN, BRIGITTE	FARUM		DK	
PISKUR, JURE	COPENHAGEN		DK	
SONDERGAARD, LEIF	GENTOFTE		DK	

APPL-NO: 09/ 416579

DATE FILED: October 12, 1999

CONTINUED PROSECUTION APPLICATION: This is a publication of a continued prosecution application (CPA) filed under 37 CFR 1.53(d).

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
DE	198 46 838.5	1998DE-198 46 838.5	October 12, 1998
DE	199 14 644.6	1999DE-199 14 644.6	March 31, 1999

US-CL-CURRENT: 435/194,435/320.1 ,435/325 ,435/69.1 ,514/12 ,536/23.2

ABSTRACT:

Recombinant kinase remaining stable during the synthesis of nucleoside monophosphate without the addition of stabilizing SH reagents, without stabilizing proteins and accepting all four natural deoxynucleotides, obtainable from insect cells such as e.g. *Drosophila Melanogaster*. In addition, the invention concerns DNA sequences, vectors, transformed cells, a method for production of the recombinant kinase as well as its use for preparing nucleoside monophosphates.

----- KWIC -----

Title - TTL:

DEOXYNUCLEOSIDE KINASE FROM INSECT CELLS FOR THE SYNTHESIS OF

## NUCLEOSIDE MONOPHOSPHATES

### Summary of Invention Paragraph - BSTX:

[0012] The disadvantages of the state of the art were overcome by the provision of a recombinant multifunctional deoxynucleoside kinase from insect cells such as in particular *Drosophila melanogaster* (Dm-dNK) remaining stable during the synthesis of nucleoside monophosphates without the addition of stabilizing SH reagents, without stabilizing proteins and detergents and accepting all four natural deoxynucleosides: thymidine (dThd), deoxycytidine (dCyd), deoxyadenosine (dAdo) and deoxyguanosine (dGuo). In the present invention stable means that the yield rate for the catalyzed reaction does practically not decrease within 5 hours, preferably 10 hours, particularly preferably within 12 hours at 37.degree. C. It is surprising that the enzyme remains stable for such a long time without addition of stabilizers containing thiol. This stability has not been observed in other kinases until now (1-9). By leaving out these stabilizers when using the kinase according to the invention in the synthesis the synthesis gets cheaper and, above all, the product purification can be simplified to a great extent.

### Detail Description Paragraph - DETX:

[0023] A pBluescript SK +/- phagmide containing a 1.1 kbp cDNA insert which contains among others the presumed gene coding for the deoxynucleoside kinase was obtained from the Berkeley *Drosophila* genome sequencing project (clone LD15983). The first 600 base pairs of the 5' end of the 1.1 kbp cDNA cloned via EcoRI and XhoI in the multiple cloning site (MCS) of the phagmide were already sequenced by Harvey et al., University of California, Berkeley. Based on these sequence information new primers were designed (Dm-TK1 and Dm-TK2/SEQ ID NO:9: 5'TCCCAATCTCACGTGCAGATC-3' and SEQ ID NO 10: 5'-TTCATCGAAGAGTCCATTAC-3' which enabled complete sequencing of the insert. Dm-TK1 is a 21 bp sense primer binding upstream from the presumed translation start region. Dm-TK2 was designed as 21 bp sense primer according to the 3' region of the cDNA part already sequenced.

US-PAT-NO: 6491905

DOCUMENT-IDENTIFIER: US 6491905 B1

TITLE: Recombinant bacterial cells for delivery of PNP to tumor cells

DATE-ISSUED: December 10, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sorscher; Eric J.	Birmingham	AL	N/A	N/A
Parker; William B.	Birmingham	AL	N/A	N/A
Waud; William	Mountain Brook	AL	N/A	N/A
Gadi; Vijayakrishna K.	Birmingham	AL	N/A	N/A
Bennett, Jr.; Leonard L.	Birmingham	AL	N/A	N/A

APPL-NO: 09/ 183188

DATE FILED: October 30, 1998

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATION This application is a continuation-in-part of U.S. Ser. No. 08/881,772, filed Jun. 24, 1997, now U.S. Pat. No. 6,017,896, and Ser. No. 08/702,181, filed Aug. 23, 1996, now abandoned which is a continuation-in-part of U.S. Ser. No. 08/122,321, filed Sep. 14, 1993 now U.S. Pat. No. 5,552,311. This application also claims priority to provisional application U.S. Ser. No. 60/064,676, filed Oct. 31, 1997.

US-CL-CURRENT: 424/93.2; 424/93.1; 435/252.3; 435/252.7; 435/320.1; 435/325; 435/455; 536/23.2; 536/23.7

ABSTRACT:

The present invention provides a procaryotic host cell stably transformed or transfected by a vector including a DNA sequence encoding for purine nucleoside phosphorylase or hydrolase. The transformed or transfected procaryotic host cell can be used in combination with a purine substrate to treat tumor cells and/or virally infected cells.

21 Claims, 24 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 19

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Detailed Description Text - DETX:

In a preferred embodiment described in the Examples, the substrate is 9-(.beta.-D-2-deoxyerythropentofuranosyl)-6-methylpurine (MeP-dR). Although MeP-dR is relatively non-toxic, the therapeutic index of this compound can be enhanced. For instance, if the toxicity of MeP-dR is due to phosphorylation by a deoxynucleoside kinase, then analogs that cannot be phosphorylated, such as 5'-deoxy-MeP-dR, can be synthesized and used as the prodrug to generate MeP in vivo.

US-PAT-NO: 6423692

DOCUMENT-IDENTIFIER: US 6423692 B2

TITLE: Method of enhancing the effectiveness of dCK phosphorylated molecules

DATE-ISSUED: July 23, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fine; Howard A.	Boston	MA	N/A	N/A
Kufe; Donald	Wellesley	MA	N/A	N/A
Manome; Yoshinobu	Kawasaki	N/A	N/A	JP

APPL-NO: 09/ 065933

DATE FILED: April 24, 1998

PARENT-CASE:

This application claims the benefit of U.S. Provisional Application No. 60/044,314 filed Apr. 24, 1997.

US-CL-CURRENT: 514/44; 424/93.2 ; 435/320.1 ; 435/325 ; 435/455 ; 435/69.1 ; 514/45 ; 514/49

ABSTRACT:

A method of increasing the effectiveness of molecules that can be phosphorylated by dCK is described. This method involves transducing cells with the gene for deoxycytidine kinase which can chemosensitize the cell to molecules that are phosphorylated by dCK.

18 Claims, 12 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 7

----- KWIC -----

Other Reference Publication - OREF:

Jay C. Sarup, et al., ("Regulation of Purine Deoxynucleoside Phosphorylation By Deoxycytidine Kinase From Human Leukemic Blast Cells", Biochemical Pharmacology, vol. 38, No. 16, pp. 2601-2607, 1989, printed in Great Britain).

\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 14:41:12 ON 24 MAR 2003

=> fil .bec

COST IN U.S. DOLLARS

FULL ESTIMATED COST

SINCE FILE	TOTAL
ENTRY	SESSION
0.21	0.21

FILES 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS, ESBIODBASE, BIOTECHNO, WPIDS' ENTERED AT 14:41:37 ON 24 MAR 2003  
ALL COPYRIGHTS AND RESTRICTIONS APPLY. SEE HELP USAGETERMS FOR DETAILS.

11 FILES IN THE FILE LIST

=> s deoxynucleoside(4a)kinase#

FILE 'MEDLINE'

955 DEOXYNUCLEOSIDE  
187158 KINASE#  
L1 73 DEOXYNUCLEOSIDE(4A) KINASE#

FILE 'SCISEARCH'

848 DEOXYNUCLEOSIDE  
209294 KINASE#  
L2 58 DEOXYNUCLEOSIDE(4A) KINASE#

FILE 'LIFESCI'

455 DEOXYNUCLEOSIDE  
61116 KINASE#  
L3 21 DEOXYNUCLEOSIDE(4A) KINASE#

FILE 'BIOTECHDS'

130 DEOXYNUCLEOSIDE  
6098 KINASE#  
L4 2 DEOXYNUCLEOSIDE(4A) KINASE#

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239005 KINASE#  
L5 73 DEOXYNUCLEOSIDE(4A) KINASE#

FILE 'EMBASE'

966 DEOXYNUCLEOSIDE  
160785 KINASE#  
L6 57 DEOXYNUCLEOSIDE(4A) KINASE#

FILE 'HCAPLUS'

2115 DEOXYNUCLEOSIDE  
196079 KINASE#  
L7 118 DEOXYNUCLEOSIDE(4A) KINASE#

FILE 'NTIS'

11 DEOXYNUCLEOSIDE  
1324 KINASE#  
L8 0 DEOXYNUCLEOSIDE(4A) KINASE#

FILE 'ESBIODBASE'

264 DEOXYNUCLEOSIDE  
82859 KINASE#  
L9 22 DEOXYNUCLEOSIDE(4A) KINASE#

FILE 'BIOTECHNO'

464 DEOXYNUCLEOSIDE

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      42183 DROSOPHIL?
L13      5 L1 (10A)(INSECT OR DROSOPHIL?)

FILE 'SCISEARCH'
      40258 INSECT
      58228 DROSOPHIL?
L14      5 L2 (10A)(INSECT OR DROSOPHIL?)

FILE 'LIFESCI'
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FILE 'BIOTECHDS'
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L16      0 L4 (10A)(INSECT OR DROSOPHIL?)

FILE 'BIOSIS'
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      61207 DROSOPHIL?
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FILE 'HCAPLUS'
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516 DROSOPHIL?
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L25      5 L1 AND MULTIFUNCT?

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L26      8 L2 AND MULTIFUNCT?

FILE 'LIFESCI'
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L27      1 L3 AND MULTIFUNCT?

FILE 'BIOTECHDS'
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L28      0 L4 AND MULTIFUNCT?

FILE 'BIOSIS'
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L30      5 L6 AND MULTIFUNCT?

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L32      0 L8 AND MULTIFUNCT?

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FILE 'WPIDS'
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L35      0 L11 AND MULTIFUNCT?

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      1605574 2000-2003/PY
L37      3 (L13 OR L25) NOT 2000-2003/PY

FILE 'SCISEARCH'
      3052675 2000-2003/PY
L38      4 (L14 OR L26) NOT 2000-2003/PY

FILE 'LIFESCI'

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306553 2000-2003/PY  
 L39 1 (L15 OR L27) NOT 2000-2003/PY  
 FILE 'BIOTECHDS'  
 53674 2000-2003/PY  
 L40 0 (L16 OR L28) NOT 2000-2003/PY  
 FILE 'BIOSIS'  
 1665276 2000-2003/PY  
 L41 3 (L17 OR L29) NOT 2000-2003/PY  
 FILE 'EMBASE'  
 1367919 2000-2003/PY  
 L42 3 (L18 OR L30) NOT 2000-2003/PY  
 FILE 'HCAPLUS'  
 3068180 2000-2003/PY  
 L43 4 (L19 OR L31) NOT 2000-2003/PY  
 FILE 'NTIS'  
 49127 2000-2003/PY  
 L44 0 (L20 OR L32) NOT 2000-2003/PY  
 FILE 'ESBIOBASE'  
 884529 2000-2003/PY  
 L45 1 (L21 OR L33) NOT 2000-2003/PY  
 FILE 'BIOTECHNO'  
 364451 2000-2003/PY  
 L46 2 (L22 OR L34) NOT 2000-2003/PY  
 FILE 'WPIDS'  
 2738049 2000-2003/PY  
 L47 0 (L23 OR L35) NOT 2000-2003/PY  
 TOTAL FOR ALL FILES  
 L48 21 (L24 OR L36) NOT 2000-2003/PY

=> fil .becpat  
 COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
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FULL ESTIMATED COST

FILES 'BIOTECHDS, HCAPLUS, WPIDS' ENTERED AT 14:44:24 ON 24 MAR 2003  
 ALL COPYRIGHTS AND RESTRICTIONS APPLY. SEE HELP USAGETERMS FOR DETAILS.

3 FILES IN THE FILE LIST

=> s (l24 or l36) and wo/pc

FILE 'BIOTECHDS'  
 42756 WO/PC  
 L49 0 (L16 OR L28) AND WO/PC

FILE 'HCAPLUS'  
 301129 WO/PC  
 L50 1 (L19 OR L31) AND WO/PC

FILE 'WPIDS'  
 723622 WO/PC  
 L51 0 (L23 OR L35) AND WO/PC

TOTAL FOR ALL FILES  
 L52 1 (L24 OR L36) AND WO/PC

=> d

L52 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2003 ACS

TI **Multifunctional** nucleoside deoxyribosyltransferase for  
preparation of nucleosides, nucleotides, and polynucleotides  
SO Ger. Offen., 41 pp.

CODEN: GWXXBX

IN Vasiloiu, Roxana

AN 1991:627097 HCAPLUS

DN 115:227097

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4020529	A1	19910321	DE 1990-4020529	19900628
WO 9104322	A1	19910404	WO 1990-DE678	19900906 <--
W: AU, BB, BG, BR, CA, FI, HU, JP, KP, KR, LK, MC, MG, MW, NO, RO, SD, SU, US				
RW: AT, BE, BF, BJ, CF, CG, CH, CM, DE, DK, ES, FR, GA, GB, IT, LU, ML, MR, NL, SE, SN, TD, TG				
AU 9062793	A1	19910418	AU 1990-62793	19900906
EP 491739	A1	19920701	EP 1990-912867	19900906
EP 491739	B1	19971217		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE				
JP 07500481	T2	19950119	JP 1990-511975	19900906
JP 3032289	B2	20000410		
EP 816508	A1	19980107	EP 1997-115112	19900906
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE				
AT 161286	E	19980115	AT 1990-912867	19900906
ES 2110418	T3	19980216	ES 1990-912867	19900906
US 6087132	A	20000711	US 1995-467810	19950606

=> d ab

L52 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2003 ACS

AB A new nucleoside deoxyribosyltransferase from *Lactobacillus leichmanii* is purified and characterized. This enzyme, V3, as well as the previously isolated enzymes V1 and V2, were shown to also have nucleoside dideoxyribosyltransferase, kinase, and reductase, deaminase, and polymerase activities. These activities were demonstrated with a no. of substrates.

=> log y

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
13.99	29.47

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
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STN INTERNATIONAL LOGOFF AT 14:46:58 ON 24 MAR 2003